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A NEW GENUS AND SPECIES OF MARINE OSTRACODS
FROM SOUTH GEORGIA*

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The somewhat extensive material of marine Ostracods brought home by the Swedish Antarctic Expedition, 1900-1901, contained a rather large number of species new to science. The material, which was entrusted to me, has been examined, but circumstances have not allowed me to publish all the results. Indeed, following the publication of Skogsberg, 1920 and 1928,¹ in which the species belonging to *Myodocopa* and *Cladocopa* and to the genus *Cythereis* of *Podocopa* were presented, the description of the bulk of the material still remained unpublished. The following new species belonging to a new genus was found in this material.

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¹Skogsberg, T. Studies on Marine Ostracods. I. Cypridinids, Halocyprids, and Polycopids. Uppsala, 1920.

Skogsberg, T. Studies on Marine Ostracods. II. External Morphology of the Genus *Cythereis* with Descriptions of twenty-one New Species. Occ. Pap. Calif. Acad. Sci. XV, San Francisco, 1928.

Copytus Skogsberg, new genus*Diagnosis:*

Shell: Without noticeable sex dimorphism. Elongated, low, with smooth surface. Left valve somewhat larger than the right, the edge of which it partly overlaps. Inner line and line of junction widely separated along anterior and posterior margins of shell and coincide along middle portion of ventral margin. Marginal pores simple, moderate in number. Selvage narrow, hard to detect, apparently with smooth edge. Eye probably absent (if present, very small). Hinge without teeth. Four muscle impressions form a small, rounded group near middle of each valve, and a small, single impression occurs somewhat in front of this group. Calcareous, but thin and fragile.

First antenna: No sex dimorphism. Of moderate length and strength; 5-jointed; fourth joint composed of 2 merged joints, with slight traces of original division; when at rest, with the 3 distal joints bent upwards, the third joint forming a rather decided knee with the second. First joint without bristles. Second joint with a long bristle at about middle of posterior side. The 3 distal joints with same number of bristles as in subgenus *Cythereis* (Jones); some of these bristles rather long, some rather strong; 1 of the 4 distal bristles of end joint narrow, subequal in width throughout, rounded distally, hyaline, sensory, and joined to its neighbor at base.

Second antenna: No sex dimorphism. Of moderate strength but rather short, due to shortness of second endopodite joint. Exopodite long, 2-jointed. First endopodite joint with 1 postero-distal bristle. Second endopodite joint with 2 bristles on anterior side, 3 at about middle of posterior (1 of these sensory), and 1 postero-distally. Third endopodite joint with 4 bristles, 1 of which is rather weak and short, the others claw-like and fairly long.

Mandible: No sex dimorphism. First (protopodite) joint of moderate size and strength, narrow, wedge-shaped; its proximal part without rounded hump on anterior side; its part below palp (pars incisiva) about 3 times longer than toothed edge and with distinct posterior notch; toothed edge with about 6 teeth, of which the anterior is simple and rather large; the remaining ones decrease in size posteriorly, the posterior one being very small; 2 short bristles between teeth number 1 and 2; and a similar bristle between teeth number 2 and 3; at base of small posterior tooth, there are 2 short bristles. On anterior side of this joint, somewhat ventrally to palp, there is 1 rather short bristle with short hairs. Palp about as long as first protopodite joint, with thin walls, 3-jointed (second protopodite and first endopodite joints almost completely merged). Second protopodite joint with 2 ventral bristles (as in sub-genus *Cythereis*). Epipodial appendage with 1 bristle and a scale-like process (the latter directed forward in Fig. 5); its position rela-

tive to second protopodite joint can not be established due to merging of joints, but probably the same as in sub-genus *Cythereis*. First endopodite joint (just as second protopodite joint) shorter than high; with 2 dorso-distal bristles, and with 3 bristles located somewhat more ventrally; one of the more ventral ones is of extraordinary size, non-annulated, and furnished along its entire length with numerous, long, stiff hairs, arranged as the pinnules of a feather. Second endopodite joint very long and narrow (6-7 times as long as high), and of subuniform width throughout; with but a few (about 4) weak bristles distally. End joint of about the same shape and with the same number (4) of bristles as in sub-genus *Cythereis*.

Maxilla: No distinct sex dimorphism. Epipodial appendage of about the same size as in the genus *Cytheretta* (G. W. Müller, 1894; pl. 39, fig. 10); with about 17-18 marginal bristles. The anterior two of these bristles directed forward and located on a small, lobe-like process; the remaining ones of about the same type and relative lengths as in figure mentioned above. Protopodite with 3 well developed endites; the two distal usually about twice as long as high or slightly longer, and a little shorter than first joint of palp; the proximal endite generally slightly shorter and higher than the distal ones. Each endite with 6-7 bristles. Palp distinctly 2-jointed; first joint rather large; end joint small. These joints with about 3 and 4 bristles, respectively.

Fifth limb: Without, or with hardly distinguishable, sex dimorphism. Of moderate strength and length, somewhat smaller and weaker than in the sub-genus *Cythereis*; 4-jointed. Protopodite with 4 bristles on anterior side: 2 distally and 2 near or somewhat proximally to middle; of the latter 2, the one is situated somewhat proximally to the other. Epipodial appendage situated somewhat proximally to middle of posterior side of this joint, and consists of a small lobe with 2 long bristles, both non-annulated, soft, and furnished with moderately long, soft hairs. Exopodite with 2 bristles, viz., 1 ventro-distally on first joint, the other forming the end claw.

Sixth limb: Without sex dimorphism, or nearly so. Differs from generic type of fifth limb mainly in having a slightly longer exopodite and in having only 1 bristle antero-distally on protopodite.

Seventh limb: Without sex dimorphism, or nearly so. Differs from generic type of sixth limb chiefly by having a somewhat longer exopodite, by having only 1 bristle at about middle of anterior side of protopodite, and by having the epipodite represented by a single bristle.

Brush-shaped organ: Of ordinary type, about as in the genus *Cytheretta*, as figured by G. W. Müller (1894, pl. 39, fig. 19).

Penis: See description of species, below.

Furca: In the female: Relatively large, but short; with about 5 bristles. Same number of bristles found in male, in which furca is attached to penis.

Copytus caligula* Skogsberg, new speciesDescription: Male:*

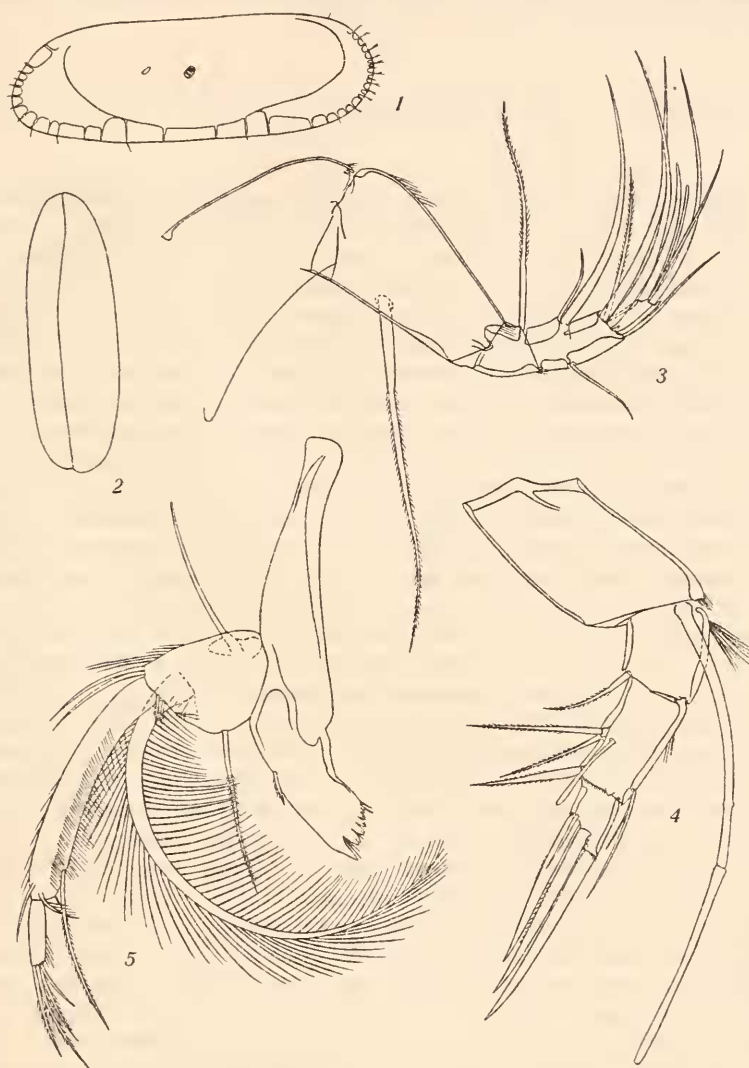
Shell (Figs. 1, 2): Length, 0.94–1.02 mm. Length : height, about 3:1. Length : breadth, 3.20–3.25:1. Seen from the side, oblong, subequal in height nearly throughout; extremities rounded, the posterior subcircular, the anterior somewhat depressed dorsally. Seen from below, narrowly subobovoidal, broadest at about the middle, broadly pointed anteriorly, asymmetrically rounded posteriorly; with even contours. Pores of surface almost impossible to detect, small and few; some of them with very short bristles. Marginal pores of about the types shown in Fig. 1; some of those along anterior margin of shell with short, fine, simple bristles; most of those along posterior margin with short, or moderately long, fine bristles, some of which are bifurcated. When shell is regarded in transmitted light, no dark fields can be detected.

First antenna (Fig. 3): The 2 proximal joints with rather thin walls; third and fourth joints with thick walls. First and second joints taper quite strikingly distally. Relative lengths of joints about as follows:

	10		13		2.5		5		3
I	—	II	—	III	—	IV	—	V	—
	12		10		4		6		3

Fourth joint shows on medial side traces of a division into 2 subequal joints. Bristle at about middle of posterior side of second joint about as long as posterior side of the 4 distal joints; of moderate strength; with short, fine hairs; and non-annulated, or nearly so. Bristle of third joint antero-distal; of about same type as bristle of second joint but smaller, about as long as or somewhat shorter than anterior side of second joint. Of the 7 bristles of fourth joint, 3 are situated near middle of joint. Two of these 3 bristles are on anterior side, 1 on posterior side of joint; the posterior and 1 of the anterior are rather weak, non-annulated, naked or almost so, and about as long as or slightly longer or shorter than this joint; remaining one of these 3 is non-annulated, naked, rather strong, gradually tapering to a very fine point, and about as long as or somewhat longer or shorter than posterior sides of second and third joints. The 4 remaining bristles of the fourth joint situated distally; 2 of them are antero-medial, and of same type and length as long bristle just described; of the other 2, 1 is posterior, rather weak, non-annulated, naked or almost so, and about as long as distal joint or somewhat longer; and 1 is antero-lateral, of about the same type as the last mentioned bristle but somewhat longer and furnished with short, fine hairs. Of the 4 bristles of the distal joint, 1 is of about same type and length as the small antero-distal bristle of the preceding joint but naked or almost so; 1 is anterior, about 3 times longer

than end joint, non-annulated, naked or almost so, gently curved, and rather strong. The claviform, narrow, sensory bristle is somewhat shorter than the last-mentioned bristle and about half as long as its neighbor, to which it is attached at the base. The last bristle is of about the same type as, but slightly shorter and distinctly



Coptus caligula Skogsberg, new species.

Fig. 1. Left valve, lateral view. $\times 50$. 2. Shell, ventral view, anterior end up. $\times 39$. 3. Left first antenna, from inside. $\times 270$. 4. Right second antenna, from outside. $\times 270$. 5. Right mandible, from inside. Type specimen, male. South Georgia, off mouth of Cumberland Bay.

weaker than the long and strong bristle at about middle of anterior side of fourth joint. Medio-distally on fourth joint, there is a minute spine. Pilosity: A few hairs are to be found dorso-distally on first joint; anteriorly, near proximal boundary, and antero-distally on second joint; and postero-distally on third joint.

Second antenna (Fig. 4): Walls of joints moderately thick. Relative lengths of joints about as follows:

	11		5		7		3.5
Protopodite	---	Endopodite I	---	II	---	III	---
	11		3.5		6.5		3.5

Exopodite rather narrow; its proximal joint shows possible signs of division in 2 joints, and is about as long as anterior side of endopodite; its distal joint about as long as total length of first and second endopodite joints. Postero-distal bristle of first endopodite joint about as long as or slightly shorter than second endopodite joint, of moderate strength, and furnished with short hairs. The 2 bristles on anterior side of second endopodite joint are closely-set, near distal boundary of joint, narrow, non-annulated, and naked; 1 about as long as or slightly longer or shorter than anterior side of distal joint; 1 usually not quite twice as long as its neighbor. Of the 3 bristles at about middle of this joint, 2 are of about same type as bristle of first endopodite joint, the lateral being about as long as second endopodite joint, the medial usually somewhat shorter. The sensory bristle is situated laterally and usually somewhat in front of the other 2 bristles; its tip reaches to base of proximal claw of end joint, or nearly so. Postero-distal bristle of second endopodite joint of about same type as postero-lateral of 3 last-mentioned bristles, but somewhat stronger and about as long as or slightly shorter than this bristle. The 3 claws of distal joint are all of about same type; rather strong, well-pointed, almost straight, and naked or furnished with only a very weak pectination; the distal (anterior) of them about as long as or slightly shorter than anterior sides of first and second endopodite joints; the middle one of subequal length; the posterior somewhat shorter. The short and weak end-bristle is situated laterally to posterior end-claw, naked, non-annulated, or nearly so, and less than half as long as its neighbor. Pilosity: Dorso-distally on protopodite, a group of short hairs. Near proximal boundary of first endopodite joint, on anterior side, there is a bunch of rather long hairs. A group of rather short hairs is also found somewhat proximally to middle of anterior side of second endopodite joint. This joint has also a fine pectination distally, both on medial and lateral sides. Fine pectination is also found at base of distal end claw.

Mandible (Fig. 5): Pars incisiva with 6 teeth, number 2-6 of which are bifurcate, their 2 points being subequal in size. Bristle on anterior side of this part usually somewhat shorter than toothed

edge. Of the 2 bristles of second protopodite joint, the proximal is non-annulated or nearly so, with short hairs, of moderate strength, and its point reaches almost to the toothed edge of pars incisiva; the distal of these 2 bristles is nearly vestigial, furnished with rather short hairs. Epipodial bristle about as long as pars incisiva; no hairs on it were detected. The 2 dorso-distal bristles of first endopodite joint rather weak, non-annulated, naked or nearly so, subequal, and about half as long as second endopodite joint, or slightly shorter. The 2 medio-distal bristles of this joint about as long as their neighbor is thick at base, with hairs of moderate length. The length of their neighboring bristle usually exceeds length of dorsal side of palp. Second endopodite joint about twice longer than dorsal side of first palp joint (second protopodite and first endopodite joints), or even somewhat longer, and about 6 times longer than high, or even slightly more elongated. There are 4 bristles near distal border of this joint; 1 of these, situated ventrally, and somewhat proximally to the others, is rather weak, non-annulated, with short hairs, and is about half as long as this joint or somewhat longer; 2 are about as long as distal joint, or somewhat shorter, non-annulated, and weak, 1 of them being naked, or nearly so, the other furnished with a few rather long hairs. The remaining bristle of this joint is nearly vestigial. The 4 bristles of distal joint rather weak, non-annulated, with short hairs or almost naked; the longest of them about as long as this joint or somewhat longer; the shortest somewhat shorter than the joint. Pilosity: First endopodite joint with group of long hairs dorsally; ventrally it has a few rather short hairs. Second endopodite joint has 4 longitudinal rows of rather short hairs, one dorsally, one ventrally, and one on either side. Distal joint with a few hairs ventro-distally.

Maxilla (Figs. 6, 7): Epipodial appendage consists of 2 lobes, of which the anterior is subequal in size to masticatory part of this limb. Of the 2 bristles of the anterior lobe, the anterior one is rather long and furnished with long, fine hairs, such as those of the bristles of the posterior, main, lobe of the appendage. The remaining bristle is naked or almost so, about one-third to one-fourth the length of the anterior bristle, and of the peculiar shape shown in Fig. 6. First endite with 6 distal bristles, of which the posterior is rather strong and about as long as or somewhat longer than dorsal side of first joint of palp, non-annulated, and naked or nearly so; the remaining ones rather weak and about one-third the length of posterior bristle, non-annulated or almost so, most of them furnished with a few, moderately long, stiff hairs. Second endite has 7 distal bristles of about same types and sizes as the 5 shorter bristles of first endite. Third endite also with 7 bristles, resembling those of preceding endite but on the average very slightly longer and stronger and with fewer hairs. First joint of palp about half as high as this limb is at base of endites and usually not much longer than high. Dorso-distally it has 2 bristles, both apparently rather soft, 1 about twice as long

as dorsal side of joint or somewhat longer or shorter and furnished with rather long, soft hairs, and 1 which is about half as long or slightly more and usually naked or almost so. Somewhat ventrally and proximally to these 2 bristles, there is a single soft bristle, usually about half as long as dorsal side of joint and furnished with rather long hairs. Distal joint more or less rounded, with 4 bristles; dorsal one of these about as long as dorsal side of preceding joint, with rather long hairs; next bristle of same type but about half as



Copepoda caligula Skogsberg, new species.

Fig. 6. Maxilla. $\times 175$. 7. Palp and endites of maxilla. $\times 435$. 8. Fifth limb. $\times 270$. 9. Sixth limb. $\times 270$. 10. Seventh limb. $\times 270$. 11. Hind portion of body, seen from left side. $\times 225$. 12. Chitinous skeleton of side of body, above fifth to seventh limbs; from left side. $\times 410$. Figs. 6-10, from type specimen, male; figs. 11 and 12, from female.

long; 2 remaining ones short, the dorsal one being about as long as joint, the other slightly shorter, both of them naked or almost so. The entire limb appears to be without pilosity.

Fifth limb (Fig. 8): Protopodite relatively broad; first exopodite joint about as long as or but slightly shorter than total length of the 2 distal joints which are subequal. Walls of joints rather thin. Distal one of 2 bristles near middle of anterior side of protopodite and medial knee bristle about as long as or somewhat shorter than first exopodite joint, soft, and furnished with long, soft hairs. Proximal bristle on anterior side of this joint about as long as this side or slightly shorter, furnished with short hairs. Lateral bristle at knee is claw-like, naked or almost so, and about as long as or somewhat shorter than distal width of protopodite. All protopodite bristles non-annulated. Of the 2 bristles of epipodite, the ventral is somewhat longer than its neighbor, and about as long as or somewhat longer than first exopodite joint. Bristle of first exopodite joint usually somewhat longer than second exopodite joint, of moderate strength, non-annulated, and with short hairs. Distal claw rather weak, about as long as total length of 2 distal joints, gently curved, and with weak pectination. Two distal joints ventro-distally with a few short, fine hairs.

Sixth limb (Fig. 9): Protopodite somewhat narrower than in preceding limb. Of the 2 bristles at about middle of anterior side of protopodite, the proximal usually is about same size and type as corresponding bristle of preceding limb; however, it may be as short as in Fig. 9. The distal of these 2 bristles agrees with corresponding bristle of fifth limb, but is about as long as total length of first 2 exopodite joints, or slightly more or less. Bristle at knee has about same type and length as lateral knee bristle of fifth limb, but it is slightly smaller. Epipodite of about same type as that of fifth limb, but its lobe is usually somewhat smaller. Bristle of first exopodite joint differs from that of fifth limb by being slightly longer. The same is true in regard to the end claw. Pilosity agrees with that of fifth limb.

Seventh limb (Fig. 10): Proximal part of protopodite somewhat broader than in sixth limb. First exopodite joint somewhat longer than total length of 2 distal joints which either are subequal or the distal one is slightly the shorter. Bristle at about middle of anterior side of protopodite resembles the longer bristle at this place of sixth limb, and is sometimes even somewhat longer than total length of first 2 exopodite joints. Bristle at knee may be weaker than corresponding one of sixth limb; with short, fine hairs. Epipodial bristle thin, usually somewhat longer than distal joint and furnished with short hairs. Bristle of first exopodite joint about as long as total length of 2 distal joints, with fine short hairs. End claw with fine pectination; slightly longer than total length of 2 distal joints. Pilosity about as on preceding limb, or second exopodite joint is naked.